

CLAIMS:

Sub A7 1. A method for testing a computer program comprising the
5 steps of:
parsing a source code of the computer program;
creating stubs for the source code;
instrumenting the parsed source code with the created
stubs;
10 compiling the instrumented code;
testing the compiled code; and
reporting test results in a GUI.

2. The method of claim 1 wherein, the step of creating
15 stubs comprises replacing the name of externally called functions
within the source code with the name of specific functions with
same signature as the externally called functions.

3. The method of claim 2 wherein, the specific functions
20 are one or more of predetermined functions and predetermined
stubs.

4. The method of claim 3 wherein, the predetermined
functions and stubs are automatically generated.

25 *Sub A8* 5. The method of claim 4 wherein, the step of
automatically generating functions and stubs comprises
automatically generating arguments to the functions and
automatically initializing class members.

30 6. The method of claim 2 wherein, the specific functions
are user-specified functions.

Sub A7 7. The method of claim 6 wherein, the user-specified
35 functions are specified within the GUI.

8. The method of claim 1 further comprising the steps of
5 breaking down the computer program into smaller components before
compiling and testing the smaller components individually.

9. The method of claim 8 wherein, the smaller components
are of the type of one or more of name space, class, function,
and objects.

10 Sub A³ 10. The method of claim 1 wherein, the step of creating
stubs comprises reconstructing a class by removing the source
code that is not related to the class.

15 11. The method of claim 1 wherein, the step of creating
stubs comprises reconstructing a class by ignoring the source
code that is not related to the class.

20 Sub A⁴ 12. The method of claim 2 further comprising maintaining
a list of related functions to be replaced for each function
under test.

25 Sub A⁴ 13. The method of claim 1 further comprising monitoring
test coverage of the computer program.

25 Sub A⁴ 14. The method of claim 13 further comprising displaying
the monitored test coverage in the GUI as the test progresses.

30 Sub A⁴ 15. The method of claim 1 further comprising the steps of
defining a specific behavior when a function within the source
code is called; storing the defined information; compiling the
defined information as a separate object; and linking the
compiled object to the code.

16. The method of claim 1 wherein, the step of testing comprises of white-box testing.

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17. The method of claim 1 wherein, the step of testing comprises of black-box testing.

18. The method of claim 1 wherein, the step of testing
10 comprises of regression testing.

Sub A57 19. A method for testing a computer program having a source code comprising the steps of:

15 parsing the source code of the computer program;
breaking down the source code into a plurality of
smaller components;

testing the smaller components individually; and
reporting test results in a GUI.

20 20. The method of claim 19 wherein, the smaller components are of the type of one or more of name space, class, function, and objects.

25 21. The method of claim 19 further comprising replacing the name of externally called functions within the source code with the name of specific functions with same signature as the externally called functions.

30 22. The method of claim 21 wherein, the specific functions are one or more of predetermined functions and predetermined stubs.

23. The method of claim 22 wherein, the predetermined functions and stubs are automatically generated.

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24. The method of claim 23 wherein, the automatically generating functions and stubs comprises automatically generating arguments to the functions and automatically initializing class members.

25. The method of claim 21 wherein, the specific functions are user-specified functions.

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26. The method of claim 19 further comprising monitoring test coverage of the computer program.

Sub A7 27. The method of claim 26 further comprising displaying the monitored test coverage in the GUI as the test progresses.

20 28. The method of claim 19 further comprising the steps of defining a specific behavior when a function within the source code is called; storing the defined information; compiling the defined information as a separate object; and linking the compiled object to the code.

25 29. The method of claim 19 wherein, the step of testing comprises of white-box testing.

30 30. The method of claim 19 wherein, the step of testing comprises of black-box testing.

30 31. The method of claim 19 wherein, the step of testing comprises of regression testing.

Sub A7 32. A system for testing a computer program comprising: means for parsing a source code of the computer program; means for creating stubs for the source code;

~~Sub A7~~ means for instrumenting the parsed source code with the created stubs;

5 means for compiling the instrumented code;
means for testing the compiled code; and
means for reporting test results in a GUI.

33. The system of claim 32 wherein, the means for creating
10 stubs comprises means for replacing the name of externally called
functions within the source code with the name of specific
functions with same signature as the externally called functions.

34. The system of claim 32 further comprising means for
15 breaking down the computer program into smaller components before
compiling and means for testing the smaller components
individually.

35. The system of claim 32 further comprising means for
monitoring test coverage of the computer program.

36. The system of claim 32 further comprising means for
defining a specific behavior when a function within the source
code is called; means for storing the defined information; means
25 for compiling the defined information as a separate object; and
means for linking the compiled object to the code.

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37. A computer readable medium having stored thereon a set of instructions including instruction for testing a computer program, the instructions, when executed by a computer, cause the computer to perform the steps of:

10 parsing a source code of the computer program;
 creating stubs for the source code;
 instrumenting the parsed source code with the created
 stubs;
 compiling the instrumented code;
 testing the compiled code; and
 reporting test results in a GUI.

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